



PUBLIC HEALTH

**ALWAYS WORKING FOR A SAFER AND
HEALTHIER WASHINGTON**

Educating about MERA To Reduce Health Risks

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Mercury: Where Are We in Washington?



The Mercury Education and Reduction Act (MERA) of 2003 limits purchase, sale and use of certain mercury products in Washington State.

Why is Mercury A Problem?

Because of Bio-accumulation



~ 6 % of childbearing age women exceed the “safe” level for mercury. (RL Jones, MMWR, Nov 2004)

~ 630,000 babies/yr may be born in the US with mercury blood levels at or above the safety limit. (US Environmental Protection Agency, 2004)

Life-Altering Effects of Large Scale Mercury Exposure



Minimata Japan

One of the first indicators that mercury could cause serious health problems occurred in Japan. The level in the Japanese exposure far exceeds levels allowable in the US.

Large Scale Mercury Exposure In Iraq



Coated grain was used to make bread rather than to grow more grain, exposing many who ate the bread to mercury poisoning in the early 70s.



Life-Long Effects of Acute Methyl Mercury Exposure

Outbreaks of MeHg Poisoning

Place	Year	Cases
Minamata	1953-60	1000
Nigata	1964-65	646
Guatemala	1963-65	45
Ghana	1967	144
Pakistan	1969	100
Iraq	1956	100
Iraq	1960	1,002
Iraq	1971	40,000
On-going	2001	???

Methyl Mercury Effects on Children



Exposure *in utero* can result in:

- developmental delays
- learning disabilities
- permanent neurological problems or conditions



Fish Consumption Recommendations For Pregnant Women

- Fish are good to eat.
- Fish are low in fat and a good source of nutrients
- Eat fish, be smart
- Know what types of fish to avoid or limit
- Fish have omega 3 fatty acids which are good.
- **Do** eat the following fish:
 - flounder, cod,
 - trout and shellfish
 - salmon – which also has omega 3 fatty acids which are good

Fish to Limit:

- Fresh Water Fish (eat twice/month)
 - Bass – Largemouth and Smallmouth
 - Walleye
- Marine Water Fish (Avoid)
 - Swordfish Shark Tuna
 - Tilefish King Mackerel

Limit Canned Tunafish:

- Limit yourself to one 6 oz can/week
- Choose light tuna over Albacore (white)
- Limit a child's portion: (1 T/ 25 lbs.)

AMERA - HB 1002 Deadlines

- 1-1-04 Mercury-containing lamps must be labeled with Hg
- 1-1-05 State government must begin purchasing low/no mercury products
- 1-1-06 No more sale of these mercury-containing products
Thermostats, thermometers, manometers, elemental mercury or mercury compounds, motor vehicle convenience switches and novelties
- 1-1-06 Novelty manufacturers must notify retailers on disposal
- 1-1-06 Primary and secondary schools must remove Hg.

Mercury Chemical Action Plan Implementation Efforts



- Expand existing fluorescent light recycling efforts
 - Governor's Directive to state agencies to recycle lamps
 - Seattle Mariners, Puget Sound Energy, Unico Properties voluntary lamp recycling efforts



- Household mercury fever thermometer collection/recycling programs
 - > 50,000 collected by local government collection efforts
- Memorandum with state dental association to phase in the installation and use of amalgam separators in state dental offices by 2005
 - Nearly all dentists in King County have implemented this
 - Dentists in the remainder of the state are beginning to comply



MERA Implementation

Hg

- Labeling of Fluorescent Bulbs
 - Label Survey revealed that 38% of bulbs were labeled by 2-04, more today
 - Collection Events by bulb coalition
- Collection of mercury-containing thermostats, thermometers, manometers, vehicle light switch > 1-06
 - Thermostat Recycling Project using TRC bins in place; 41 new bins placed in wholesalers; King County "bounty project collected 1600 thermostats 04-05 project; expansion from wholesalers to contractors
 - Fluorescent light coalition collection project
 - Thermometer collection events
- Bulk elemental Hg and Hg compounds in schools >1-06
 - School training workshops
 - School Fact Sheets and bulletins disseminated
 - Rehab the Lab collection and disposal of mercury products in Spokane > 500 pounds
- Purchase and sale of novelty products



Current Activities – WA DOH

- Developed an Mercury Education Plan
- Notified businesses about fluorescent bulb labeling and thermostat recycling.
- Received a Thermostat recycling EPA grant in 7 counties; expanding TRC bin placement by 41 bins; participated in national thermostat product stewardship effort to expand TRC stewardship with contractors
- Developed fact sheets on MERA for businesses and the schools
- Launched a new website on mercury: www.doh.wa.gov/mercury
- Educated business, school, and non-profit leaders.
- Developing public education materials: card, stickers, PSA

Thermostat Recycling Project

Seven Counties Involved

- Kitsap
- Snohomish
- King
- Pierce
- Thurston
- Walla Walla
- Spokane



Program Elements

- Bin placement
- Product stewardship provided by TRC program sites
- Site types
 - Wholesaler program
 - Contractor program (urban & rural)
 - Informal HHW sites



Impact of MERA on Local Government

- Local government hazardous waste facilities
- Act as change agent within local government: promoting purchasing, disposal, recycling, stewardship
- Help schools discard all elemental mercury from primary and secondary schools <1-06
- Educate businesses, schools and the public
- Promote thermostat recycling via TRC Take Back Program



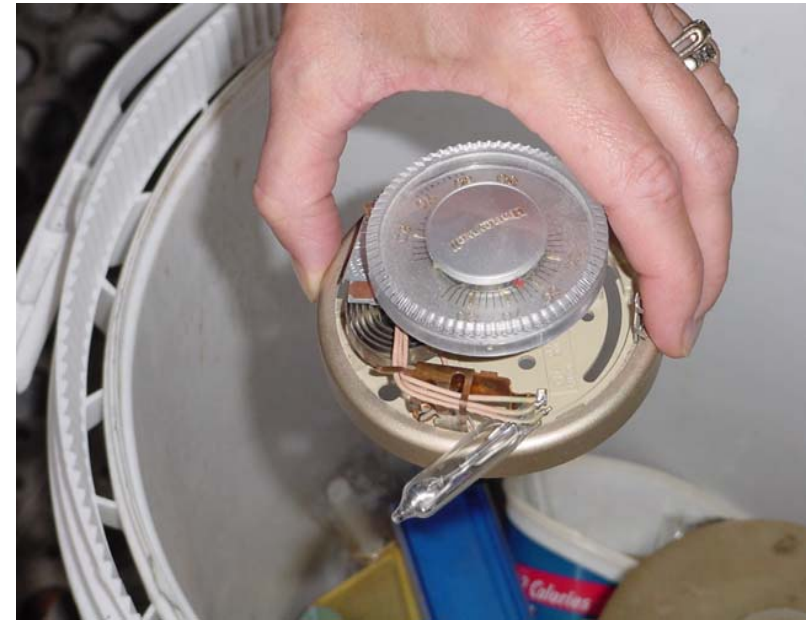
Impact of MERA on Local Government

- Promote recycling of fluorescent bulbs through the CE-SQG Program
- Promote proper use, handling and disposal of low energy fluorescent bulbs
- Promote educating about HG label



Local Government Personnel Affected

- Moderate and Hazardous Waste Directors
- Environmental Health
- Public Health Nurses
- Public Utilities
- Maintenance and Operations
- Purchasing Departments



AMERA Messages for Local Government

EH Directors/ Public Health Nurses

- Proper Disposal of mercury products can protect infants and children
- Proper Disposal can help protect the environment and prevent the need for fish advisories
- Women and Infants need to be educated about mercury risk



Local Government Messages

- Local governments can use WA GA's purchasing contracts
- Purchase for pollution prevention
- Promote elimination of construction using mercury thermostats
- Educate the public about what and how to recycle by taking to the hazardous waste facility.
- Hazardous Waste Programs can now recycle through the TRC Take Back program indirectly



Take the *Mystery* Out of Mercury



Hg ...

Means Mercury

Handle **g**ently

Mercury Do's and Don'ts

Mercury-containing products should be handled with great care.

Do's:

- Properly dispose of all products containing mercury
- Watch for the Hg symbol, and dispose properly by handling gently.
- If you are a business, find out if you qualify as a CE-SQG,
- Educate your colleagues and family members
- Find a safe location for collecting used Hg products for proper disposal

Don't:

- Throw fluorescent bulbs or any mercury-containing product in the trash
- "Recycle" these products by putting in with regular recycling waste

Hg = Mercury;
Hg means Handle Gently

Resources

- CPG Grants from the Department of Ecology
- EPA Region X Resource Center and Tools for Schools site: www.epa.gov/schools
- TRC Collection Bins for used Thermostats
 - Visit their website to find locations
- Visit www.earth911.org website
- State mercury website: www.mercurymess.org
- Contact: Madeline Beery, DOH 360-236-3189
www.doh.wa.gov/ehp/oehas/EHA_fish_adv.htm

Resources

- State Purchasing Cooperative:
 - Contract 11601: lighting, CRT tubes, TVs, electronics
 - Contract 07198: Hazardous Waste Disposal and Recycling
- School Curriculum Material
 - Wisconsin State Website
 - National Healthy Schools at www.healthyschools.org
- Contact: Madeline Beery, DOH 360-236-3189
www.doh.wa.gov/ehp/oehas/EHA_fish_adv.htm

Estimated Annual Release from Point and Area Sources of Mercury in Washington

Source	Est. Annual Release (lbs.)	Receiving medium
Distillate Fuel #2	733	Air
Coal-fired power plant (Centralia)	436	Air
Manufacturing	337	Air, Land, Water
POTWs	331	Land
Oil Refineries	125	Air, land, Water
Medical Waste Autoclaves	106	Air, Land
Crematoria	57	Air
Sewage Sludge Incinerators	32	Air
Residual Fuel	29	Air
Municipal Waste Incinerators	18	Air
Gold Mining	0-777	Air, Land, Water
TOTAL	2,180 – 2,957	

Estimated Hg in Products Disposed of in WA Annually

Mercury Products	Estimated lbs. disposed annually
Fluorescent Lamps	437 - 505
Thermostats	412
Amalgam from Dental Offices	>404
Auto Light Switches	253
Button Cell Batteries	88
Dental Amalgam in Feces & Urine	61
Household Fever Thermometers	11 - 300
Total	1,666 – 2,023



For Additional Information

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Or

Department of Ecology

Ecology's PBT/Mercury Web Page:

www.mercurymess.org

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